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NEWMAN LAKE WATERSHED PROJECT  
SPOKANE COUNTY, WASHINGTON

FINAL ENVIRONMENTAL IMPACT STATEMENT

Galen S. Bridge  
State Conservationist  
Soil Conservation Service

SPONSORING LOCAL ORGANIZATIONS

BOARD OF COUNTY COMMISSIONERS OF SPOKANE COUNTY  
FOR NEWMAN LAKE FLOOD CONTROL ZONE DISTRICT

Spokane County Courthouse  
Spokane, Washington 99201

SPOKANE COUNTY CONSERVATION DISTRICT

E. 8123 Sprague Avenue  
Spokane, Washington 99206

GAME COMMISSION, STATE OF WASHINGTON  
WASHINGTON STATE DEPARTMENT OF GAME  
600 North Capitol Way  
Olympia, Washington 98501

September 1974

PREPARED BY

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
360 U.S. Courthouse  
Spokane, Washington 99201

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USDA ENVIRONMENTAL IMPACT STATEMENT  
NEWMAN LAKE WATERSHED PROJECT  
SPOKANE COUNTY  
WASHINGTON STATE

Prepared in accordance with sec. 102(2)(C) of P.L. 91-190.

SUMMARY

- I Final
- II Soil Conservation Service
- III Administrative
- IV Brief description of project purpose and action: A project for watershed protection, flood prevention, and fish and wildlife in Spokane County, Washington to be implemented under authority of the Watershed Protection and Flood Prevention Act (P.L. 566, 83d Congress, 68 Stat. 666), as amended. The planned project consists of conservation land treatment supplemented by about 3.8 miles of channel work, a gated outlet structure with fish screens, a water level control structure and stream gage in the channel, improvement of a floodwater barrier along the lake and sink area improvement. The channel work involves enlargement of an intermittently flowing man-made ditch.
- V Summary of Environmental Impact Including Adverse and Favorable Environmental Effects: Flooding will be reduced on 1,030 acres of cropland and 50 acres of lakeshore property. The trout fishery in the lake will be greatly increased. The recreational season on the lake will be extended by about four weeks. Economic impacts include increased employment opportunities as well as \$71,110 of net annual benefits. Adverse effects of high waters on filter fields will be reduced. Mosquito breeding grounds will be reduced. The spiny-ray fishery of the lake will be reduced. Reduction of flooding on 765 acres will eliminate 460 acres of Type I wetlands. About 2-1/2 acres of land and 23 acres of uneven-aged ponderosa pine will be consumed during construction. The project may hasten the need for improved waste management facilities in future years.
- VI List of Alternatives Considered: (1) build a pumping plant instead of 11,000 feet of channel; (2) buy the flooded area, thus eliminating many of the existing damages and permitting additional floodwater storage; (3) leave the area in its present condition.
- VII Federal, state, and local agencies from which written comments have been received: Department of the Army; Environmental Protection Agency; Department of the Interior; Department of Transportation; Advisory Council on Historic Preservation; Washington State Department of Ecology; and Washington State Department of Game.
- VIII Draft Statement transmitted to CEQ on May 24, 1974.





UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

FINAL ENVIRONMENTAL IMPACT STATEMENT<sup>1/</sup>  
for  
NEWMAN LAKE WATERSHED, WASHINGTON

Installation of this project constitutes an administrative action. Federal assistance will be provided under authority of Public Law 83-566, 83d Congress, 68 Stat. 666, as amended.

SPONSORING LOCAL ORGANIZATIONS

BOARD OF COUNTY COMMISSIONERS OF SPOKANE COUNTY  
FOR NEWMAN LAKE FLOOD CONTROL ZONE DISTRICT

SPOKANE COUNTY CONSERVATION DISTRICT

GAME COMMISSION, STATE OF WASHINGTON  
WASHINGTON STATE DEPARTMENT OF GAME

PROJECT PURPOSES

The project sponsors, the public and the Soil Conservation Service have set forth the following project objectives.

1. Provide a land treatment program to insure that proper pasture management can be initiated while keeping erosion within an allowable loss of three tons of soil per acre per year. Present land treatment practices meet these standards on all forest lands. A rate of 5.0 tons per acre occur on some steeper crop lands. The overall watershed rate is estimated to be 1.2 tons per acre.
2. To provide flood protection to urban property around the lake and to cropland areas both above the lake and below the lake.
3. Provide facilities to allow improved management of the trout fishery resource within Newman Lake. The lake is operated as a put and take fishery. Updating the fish screens along with measures installed for flood prevention would allow the sponsors to develop the lake to its potential.

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<sup>1/</sup> All the material in this report, unless otherwise referenced was developed by Soil Conservation Service personnel during the watershed planning process.

## PLANNED PROJECT

### Land Treatment

There are 26,464 acres in the Newman Lake Watershed. Present uses and capabilities of lands in the watershed were interpreted from records of the Spokane County Conservation District.

Most of the woodlands are farm forests, and are in good to excellent hydrologic condition. These woodlands contain 21,104 acres. Land treatment needs are measures for protection of the resource. Such measures are largely fire protection, woodland sanitation, and harvesting methods which will protect the woodlands from deterioration and maintain wildlife habitat. Erosion control devices, such as water bars and seeding grasses on trails and roads, will be installed.

Measures for protection and development of the 3,250 acres of cropland include seeding of improved grasses and legumes, hay and pasture seeding, conservation crop rotations, and other practices designed to reduce sediment movement and take advantage of the lessened flood hazard.

Land treatment measures that are necessary to maintain or improve the present hydrologic condition of the major portion of the watershed are included in this plan, and will be installed with advice and assistance from the Spokane County Conservation District. The conservation land treatment program includes the following measures on cropland and forest land:

1. Conservation cropping system, 200 acres-- growing crops in combination with needed cultural and management measures. Cropping systems include the use of rotations that contain grasses and legumes, as well as sequences in which the desired benefits are achieved without the use of such crops.
2. Irrigation water management, 90 acres--the use and management of irrigation water, when the quantity of water used for each irrigation is determined by the moisture-holding capacity of the soil.
3. Pasture and hayland management, 320 acres--proper treatment and use of pastureland and hayland.
4. Drainage field ditches, 3,960 feet--a graded ditch for collecting excess water within a field.
5. Farm ponds, 7--for fishing, irrigation and fire protection.
6. Proper grazing use (forest land) 1,280 acres--grazing at an intensity which will maintain adequate cover for soil protection and maintain or improve the quantity and the quality of desirable vegetation.

7. Woodland Improved Harvesting (forest land) 3,760 acres--removing merchantable trees from woodland.
8. Woodland Improvement (forest land) 1,560 acres--improving woodland by thinning, pruning, weeding, or other cultural methods.
9. Wildlife habitat management (forest land) 3,200 acres--retaining, establishing, or managing wildlife habitat other than wetland.

Because roads are the biggest source of sediment, their maintenance is an important consideration. During the next five years, in addition to furnishing fire protection, the State Department of Natural Resources plans to improve 17 miles of existing road and construct four miles of new road. Owners who cut their timber will be encouraged to take proper conservation measures to protect the timberland and water resources. These measures will be undertaken through the existing state and federal cooperative forestry program.

Over the five-year project period, land treatment measures will be installed by individual landowners, with technical assistance provided by the State Department of Natural Resources and the Soil Conservation Service, cooperating with the Spokane County Conservation District. The Department of Natural Resources provides technical assistance on 21,104 acres of forest lands. No funds for accelerating technical assistance are requested, due to the adequacy of the present program.

The estimated sum of \$7,760 will be used by the Soil Conservation Service in its regular program of assistance to Spokane County Conservation District, to provide technical assistance during the project period for the installation of land treatment measures.

The annual application of land treatment measures during the construction period outlined in the following table are felt to be realistic, and are consistent with the historical rate of planning in the watershed. The annual increments shown are average annual estimates, and are not meant to be construed as conservation goals.

| Type<br>of Land | Quantities to be installed by Years |       |        |       |        |       |           |
|-----------------|-------------------------------------|-------|--------|-------|--------|-------|-----------|
|                 | :                                   | First | Second | Third | Fourth | Fifth | Remaining |
|                 | Unit                                | Year  | Year   | Year  | Year   | Year  | Years     |
| Cropland        | ac.                                 | 61    | 122    | 122   | 122    | 183   |           |
| Forest Land     | ac.                                 | 1,320 | 1,640  | 2,440 | 2,640  | 3,960 |           |



## Structural Measures

Structural measures consist of an outlet channel for the conveyance of excess water, a water level control structure in the channel to prevent overdrainage and subsidence of organic soils, a new lake outlet structure with fish screens to manage and regulate outflow from the lake, improvement of an existing floodwater barrier to prevent the lake from overflowing onto cropland south of the lake, and improvement of the water disposal sink area. The project map shows the proposed construction. All local, state, and federal laws and regulations will be complied with during construction of the project.

Channel banks and disturbed areas within the permanent rights-of-way will be allowed to revegetate to natural forbs and woody species where very sandy and gravelly soil conditions are unsuitable for grasses. Although no stability problems are anticipated, areas suitable for survival of grasses and legumes will be seeded.

Project structural measures will be installed during a two-year period. Construction work is expected to proceed concurrently on all phases of the structural measures.

### Channel Work

The constructed outlet channel will be approximately on the same alignment as the existing channel. It will be 19,000 feet in length, and will extend from the outlet structure downstream to the water disposal area. The improvement will require about 200,000 cubic yards of excavation and approximately 13.7 acres of land clearing. The first 8,000 feet of excavation will be in organic soils; and the lower 11,000 feet is expected to be in mineral soils and gravels. Five power poles and 200 feet of buried telephone cable will have to be moved, two county bridges, one farm bridge, and a county culvert need to be replaced to carry out the channel work.

The channel cross section will be trapezoidal in shape, with a bottom width of 12 feet and 1.5 horizontal to 1 vertical side slopes. The profile of the proposed channel has a slope of 0.0005 of a foot per foot. The spoils from construction will be formed into shaped trapezoidal embankments on the side of the channel, or spread on the right-of-way. Openings will be provided in the embankment to allow free ingress of water. Construction areas will be re-seeded.

The existing channel between survey stations 276+00 and 283+40 is generally adequate, and is to be kept in as near a natural state as possible. Rock outcrops throughout this channel reach provide a stable bottom. The hydraulic capacity of the channel is such that it will convey the 10 percent chance of occurrence flow (102 cubic feet per second) without overbank flooding.

### Channel Water Level Structure

To prevent subsidence of organic soils, a water level control structure will be installed in the improved channel. This structure, located in

section 13 near survey station 185+80, will be gated to regulate the floodflow and the gate may be closed during normal and low-flow periods to prevent overdrainage of the organic soils. The water level control structure will contain a radial gate about 10 feet wide for regulation of larger flows, a vertical rising adjustable weir gate for management of small flows, and an emergency weir which will pass any expected flow in the event other gates are not operated.

#### Lake Outlet Structures with Fish Screens

This structure will allow controlled discharges and will dampen fluctuations of the lake level caused by variations in climatic conditions and by runoff.

The outlet structure will consist of a reinforced overflow section set on natural rock foundations. The concrete overflow section consists of a weir having a crest elevation of 2126.0 feet, USGS datum, and a total length of about 75 feet. A concrete apron will be constructed below the weir to prevent channel erosion. A radial gate approximately 10 feet wide will be installed adjacent to the weir to provide controlled outlet discharge of large flows. A vertically rising weir gate will provide low flow management and regulation of the lake below elevation 2126.0 feet, mean sea level. The gate will pass the 1 percent flow (175 cubic feet per second).

Excess water will be discharged through the gate, during spring runoff periods. As excess flow diminishes, the gate will be closed to allow restoration of the natural level of the lake. Flow issuing through the gate will pass into the improved channel and be removed from the area. The capacity of the structure is adequate to give protection to shorelands and farmlands of the area.

Two fish screens of the rotating drum type, approximately eight feet in diameter by 12 feet long, will be installed. They will be rotated by electric motors to provide cleaning action and will be protected from large floating debris by trash racks installed upstream from the screens. A radial gate is to be installed parallel to the screens to permit flow to bypass the screens. This feature is considered essential for emergencies and for proper management.

The lake outlet structure will be fenced; the gate controls will be provided with locks to prevent trespass and unauthorized operation, and as an aid to public safety.

#### Floodwater Barrier

The existing floodwater barrier on the southern shore of the lake will be improved by increasing the cross section of the barrier and raising the top elevation. Material for this operation is to be excavated from a borrow ditch located along the south side of the barrier.

Sod cover presently on the barrier is to be disturbed as little as possible during construction. The constructed barrier will revegetate from rhizomes and other growth spreading from the existing sod. Reed canary grass is abundant in the peat and muck area. After excavation the borrow ditch is to be left in a condition to serve as a drain for the purpose of collecting and conveying any seepage flow to the outlet channel.

#### Sink Area Improvement

Removal of sediment from a portion of the sink area is planned. Silts will be removed to expose the permeable sands and gravels of approximately five acres of the sink. Spoil will be piled on designated areas near the sink and on the existing dike, to reinforce the holding capacity for years of exceptionally high water.

The dike along the margin of the sink will be reinforced and raised with this spoil material. It is anticipated that the material used in this location will contain grasses, weeds, and other plant materials that normally are not acceptable for dike construction. The old dike in this situation will provide necessary imperviousness and is not dependent on the new fill for hydraulic functions.

#### Snow Course and Stream Gage

During the construction period, a snow course will be installed on Horse Mountain in the upper watershed. It will be manually operated and used exclusively for floodflow forecasting to the lake, so that more precise regulation can be achieved in future years.

A temporary recording stream gage will be installed on the outlet channel. Once a correlation between volume of runoff and accumulated snow depth can be made, records will be discontinued.

#### Nonstructural Project Measures

There are no nonstructural measures proposed on this watershed.

#### Land Use Changes

More intensive development on 50 acres of lakeshore property could occur around the perimeter of Newman Lake due to the flood protection afforded this area by the project. The edge of Newman Lake is already fairly well developed with summer and permanent homes and resorts, but due to frequent flooding, some areas have not been developed. With the flood protection provided by the project, these areas can be developed and more intensive development can occur in areas that are already occupied.

The improved fisheries that will result from the project will also encourage additional development along the lakeshore.



## Operation and Maintenance

Operation and maintenance of land treatment measures will be the responsibility of the individual owners of the properties on which the measures are installed. Technical assistance is available from the Spokane County Conservation District.

It is planned that the elevation of the lake will be lowered each winter in anticipation of spring runoff and unusual precipitation events that might cause flood damage. Normally, the lake surface will be lowered about two feet to a maximum elevation of 2123.6 feet, USGS, for this purpose. The radial gate outflow will be adjusted to match inflow up to an inflow rate of 175 cfs. <sup>1/</sup> The storage available by this drawdown of the lake, together with outflow management, will pass the flood event having a probability of recurrence once in 10 years without predictable damage to farmlands or property.

It is planned that additional lowering of the lake surface elevation (below 2123.6 feet) may be undertaken if an exceptionally heavy winter snow accumulation indicates the possibility of spring flooding. Snow course measurements, giving snow depth, water content, and ground conditions, will be used to determine whether to lower the lake surface below the standard winter drawdown elevation. Measurements of a snow course in the watershed above Newman Lake will be made monthly during the winter snow buildup and meltdown periods of the year, to provide lake management information. In the event snow conditions warrant, the lake surface level would be lowered to a maximum elevation of 2122.6 feet, USGS, and the additional regulation thus provided would pass the flood having a one percent chance of recurrence with little or no damage to property or farmlands.

A gated outlet in the lake outlet control structure will permit management of the lake volume and surface elevation as outlined above. The structure will contain a radial gate of sufficient size to pass any expected flow, and a vertical rising adjustable weir gate for fine adjustment of smaller flows. The lake outlet structure, in addition, contains a fixed emergency weir having a length of about 75 feet which will provide a fail-safe protection, in the absence of other management, against excessive damage from storm events having as much as one percent chance of recurrence.

Physical factors limit control of low water. The meager flow into the lake in the summer months may not be sufficient to offset evaporation losses. However, the installation of a gated structure will allow local interests to manage the water for optimum levels obtainable under varying climatic conditions. Sufficient flow is available each spring season to assure raising the lake to its optimum elevation during the early spring months.

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<sup>1/</sup> cfs - cubic feet per second



Operation and maintenance of the channel, lake outlet structure, floodwater barrier, channel water level control structure, and sink, will be by the Newman Lake Flood Control Zone District, through the Spokane County Commissioners, at an estimated cost of \$3,005 annually. This maintenance estimate includes allowances for control of vegetation, sediment, painting, cleanout, and repair. In addition, local sponsors will expend an estimated \$300 per year for snow course measurements during periods of accumulation and melting of snow. This will include flow forecasting after sufficient historical data have been obtained for the purpose.

The costs of operating and maintaining the fish screens and base, including operating power, and costs of replacing the screens, motors, and gears, and the management of the fishery resource, will be borne by the Washington State Department of Game. As a part of the management of the fishery resource, the Department of Game is expected, as feasible, to remove trash fish from the lake and restock with trout, together with other management to maintain the fishery. These operation and maintenance costs are estimated to be \$1,910 annually.

Specific operation and maintenance agreements will be executed prior to the issuance of invitations to bid for any construction contract.

The Sponsors and the Soil Conservation Service will jointly make an inspection of construction work annually, after unusually severe floods, and after the occurrence of any other unusual condition that might adversely affect the structural measures. Joint inspections will continue for three years following installation of such structures. Inspections after the third year will be made annually by the sponsors.

Land treatment accomplishments will be reviewed annually, and needed actions will be taken to provide technical assistance to encourage continued and timely progress toward completion of this phase of the project.

### Project Costs

Project installation costs are itemized as follows:

| Installation Cost Item    | : Estimated Cost (1973 Dollars) |         |         |
|---------------------------|---------------------------------|---------|---------|
|                           | : Nonfederal Land               |         |         |
|                           | : PL 566                        | : Other | : Total |
| Total Land Treatment      |                                 | 151,225 | 151,225 |
| Total Structural Measures | 413,295                         | 90,875  | 504,170 |
| Subtotal Construction     | 311,425                         | 17,525  | 328,950 |
| TOTAL PROJECT             | 413,295                         | 242,100 | 655,395 |

## ENVIRONMENTAL SETTING

### Physical Resources

The 26,464-acre watershed is located northeast of the city of Spokane, in Spokane County, Washington. Newman Lake, a 1,200 acre lake is located in the southern half of the watershed. Summer homes and an increasing number of permanent dwellings occupy the east and west banks of the lake. The village of Newman Lake, near the southern end of the watershed, is about 16 miles from Spokane. Year-round population of the watershed is approximately 400, and increases to about 1,800 during the summer months.

Newman Lake watershed lies in the Spokane subregion (Subregion 1703) of the Columbia-North Pacific water resource region. This region includes all of the Columbia River drainage, the coastal streams of Oregon and Washington and the Closed Basin in south central Oregon. Major physiographic features include the Olympic Mountains, the Willamette-Puget Sound Trough, the Cascade Range, and the Columbia Plateau-Blue Mountains-Snake River Plateau. More than 30 percent of the region lies in the area designated physiographically as the Northern Rocky Mountains.

Subregion 1703 occupies the northeastern part of the region. Physiographically, it lies in the Northern Rocky Mountain Province with principal mountain ranges trending generally northward in roughly parallel lines. The subregion is drained by the Spokane river system.

Most of the watershed (21,104 acres) is covered with mixed conifer forest. The only farmland is located at the north (750 acres) and south (2,500 acres) ends of the lake. Miscellaneous land uses, such as water, roads, and homesites, occupy the other 2,110 acres. The 1,080-acre flood plain consists of 1,030 acres of cropland and 50 acres of lakeshore property.

The headwaters of Newman Lake Watershed are the south facing slopes of Round Top, Quartz, and Horse Mountains, southeast of Mount Spokane. Thompson Creek, with a minimum recorded flow of 0.5 cfs, is the only perennial tributary flowing into Newman Lake.

During the spring runoff period, the manmade outlet stream flows at an average rate of about 30 cfs to a sink area in deep glacial gravel deposits three miles south of Newman Lake. Here a 20-acre lake is formed each year, but it goes dry as the lake outflow decreases later in the summer and the drainage water sinks into the ground. The watershed has no natural surface outlet.

The farmland areas below the lake and through which the outlet channels run are part of the soil and water resource problem area. Average annual flooding covers 210 acres of croplands, a runoff event of ten percent damages 765 acres and other damage areas occur around the lake. Runoff events cause damage to these properties nine out of ten years.



Thompson Creek enters Newman Lake at its extreme northern end. The creek has a length of six miles with an average width of six feet and depth of four feet. The stream gradient on the lower two miles of Thompson Creek is about 2 percent. This section of creek has been channelized and its present vegetation is primarily pasture with some willow growth.

The upper four miles of Thompson Creek is still in natural vegetation of willow, alder, fir and associated understory; stream channel gradient in this reach is about nine percent.

### Physiography

The geology of the watershed area is that of the Okanogan Highlands province. Igneous and metamorphic rocks form the foundation. The metamorphic rock consists of pre-Cambrian age gneiss, while the intrusive igneous rocks consist of Cretaceous age quartz monzonite. The Newman Lake outlet area is mantled by unconsolidated deposits of recent age lake deposits and glaciofluvial sediments.<sup>1/</sup>

Newman Lake occupies a watertight depression in an old valley that formerly drained into the Spokane River. This depression is the result of glacial drift having been deposited along the margins of Spokane Valley during the Pleistocene Epoch. These deposits, consisting principally of stratified silts, sands, and gravels, filled the outlet of the old valley, thereby blocking the pre-glacial drainage system.

There are three peat deposits covering more than 1,000 acres in the general area. One, of 730 acres, lies in secs. 10, 11, 12, 13, and 14, T 26N., R 45E. The second area consists of 332 acres along the northern shore of the lake in secs. 27, 28, 33, and 34, T 27N., R 45E. The third borders the northwest arm of Newman Lake in secs. 4 and 5, T 26N., R 45E., and in sec. 33, T 27N., R 45E., and contains about 150 acres.

There are sand and gravel pits near the sink area in sections 23 and 24, T 26N., R 45E. Apparently production from these pits has been sporadic and total production is not known.

In the upper watershed in the NW $\frac{1}{4}$  section 35, T 27N., R 45E, is a silica deposit estimated at 50 million ton. From 1959 to 1962 about 210,000 tons were mined but it is presently inactive.

The glacial drift generally has smooth surface features except for a basin that presently serves as the water-disposal site for the Newman Lake drainage. This basin, or kettle, probably resulted from the melting of a detached block of ice during recession of the glacier. The glacial sediments that underlie this basin consist of over 200 feet of sands and gravels. The depth to the regional water table is approximately 100 feet.

Rough, mountainous terrain, with elevations up to 4,500 feet, characterizes the watershed. Exceptions to this are the lower two miles of the

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<sup>1/</sup> Weiss, P.L., "Greenacres Quadrangle, Washington and Idaho," Geological Quadrangle Map G0-734 (1968)

Thompson Creek flood plain, and the outlet channel flood plain. These flood plains are flat and generally represent earlier extensions of Newman Lake. They have developed by the accumulation of mineral or organic soils. The elevation of the lake outlet is 2,120 feet and of the sink area, 2,080 feet.

The climate of the area is influenced by modified maritime conditions, and typically characterized by cool summers and moderate winters. Temperatures range from 108° F. for a maximum during the summer to -30° F. for a minimum recorded during the winter. Average growing season is 167 days. There is a range of precipitation from an average of 17.19 inches at the lower basin level to probably double that at the higher elevations in the watershed. The average annual precipitation of 17.19 inches, as taken from Spokane Airport data, is distributed through the year as follows:

|          |      |           |      |
|----------|------|-----------|------|
| January  | 2.44 | July      | .38  |
| February | 1.86 | August    | .41  |
| March    | 1.50 | September | .75  |
| April    | .91  | October   | 1.57 |
| May      | 1.21 | November  | 2.24 |
| June     | 1.49 | December  | 2.43 |

Much of the winter precipitation at elevations above 3,000 feet is in the form of snow, accumulation of more than 100 inches being quite common. This snow melts in March, April, and May, and is a contributing factor to the flooding.

The Newman Lake area soils on the rolling to steep uplands are mainly medium textured and moderately coarse textured. The soils are underlain by granite and gneiss bedrock within two to five feet of the surface. They formed under conifers from weathered bedrock, mixed in the upper part with volcanic ash. Numerous areas of organic accumulations and sandy and gravelly soils formed in glacial outwash are present in level areas. Most of the level areas are near Newman Lake and south of it.

The soil of the farmland adjacent to the lake is predominantly peat. Soils on the rolling to steep uplands are medium to moderately coarse textured.

Soils of the rolling to steep uplands are well suited to woodlands. They are not generally suited to cultivated crops because of slope, erosion hazard, and short growing season. Some of the deeper soils on lower slopes have been cleared and are used for alfalfa, grass and small grains. Some of the organic soils are used for oats, grass, and clover. A few areas of sandy and gravelly soils are irrigated and small grains, alfalfa, and vegetable crops are grown.

### Water Resources

Newman Lake, with an area of about 1,200 surface acres, is the main water resource of the watershed. The lake is 2-1/2 miles long, average 3/4



mile in width and has an average depth of 18 feet. It is used to some extent for fishing, and is used extensively for other water-related recreation.

The lake occupies a depression in the glacial drift characteristic of the area. In its native condition, the lake possessed no surface outlet. In pioneer times, an outlet channel was excavated into the south shore of the lake, and impounded water was used first for logging purposes and later for irrigation. Under present conditions, the lake stage fluctuates with watershed runoff, causing floodwater damage to adjacent lands and properties and preventing development and efficient management of the fishery potential of the lake.

Vegetation about Newman Lake consists of three distinct vegetative types:

1. Introduced pasture grasses around the north end of the lake.
2. Reed canary grass at the south end of the lake.
3. Cattails, bulrush and spikerush along the east and west sides of the lake.

Outflow from the lake is through a manmade channel to a sink area, approximately three miles to the south at the margin of the Spokane River Valley. Here the flow enters the ground through sands and gravels. There is no surface flow to the Spokane River.

For many years, water from the lake was used for irrigation by the Otis Orchards Irrigation District. In the summer of 1967, the Otis Orchard District became a part of the Spokane Valley Irrigation Development and ceased to use water from the lake.

Newman Lake is a public body of water, owned by the State of Washington. Operation was controlled by the Otis Orchards Irrigation District, which is in the process of transferring this power to the Newman Lake Flood Control Zone District. Spokane County, under authority of the State Shoreline Act, and other Acts, issues permits for all construction on Newman Lake. The State Department of Game and several of the resorts provide boat launching facilities and public access to the lake. The State Department of Game manages the fishery resources of the lake.

The gross erosion rate for the watershed is estimated at 1.2 tons per acre per year. Erosion rates on woodlands are estimated to be one ton per acre, on steeper cropland the rate is five tons per acre. The principal types of erosion are roadside and streambank, with some sheet erosion on the flat valley bottoms.

The average annual sediment yield is estimated to be 0.1 acre feet per square mile. Most of the sediment yield enters Newman Lake and amounts to an estimated 2.7 acre feet per year.

Ground water supplies vary from minor on the steep mountainous terrain to excellent in the valley bottom portion of the watershed. Water yields of 500 to 1,000 gpm <sup>1/</sup> for a 200-foot well are not uncommon in the valley bottom. The water level here lies about 100 feet below ground surface. Ground water recharge within the valley sands and gravels is from the underground water movement that originates primarily to the east in Idaho.

### Land Use

The pattern of land use is dominated by farm woodlots and forest areas which comprise about 80 percent of the watershed. Approximately two percent of the watershed can be considered to be of urban population density, the land being used for lakeshore homes. About 12 percent of the area is cropland, and about six percent is in miscellaneous uses, such as water and roads. There are about 75 farm ownerships in the watershed and about 600 lakeshore ownerships. The farms average 300 acres in size. Most of these farms are of the farm woodland type. There are about 18 grain, hay or livestock farms on the lowlands and terrace lands around and downstream from the lake. About 50 percent of the privately-owned land is covered by conservation plans.

The cropland classification includes all arable land used for close-grown grain or for forage production. (Land used for forage production is also used for close-grown grain at least once in 10 years.) Cropland in the watershed amounts to 3,250 acres. Crop residues or grainland are used for cover during the winter months and the grass cover of lands used for hay and pasture is adequate protection for such uses.

There are 460 acres of Type 1<sup>2/</sup> wetlands located within the watershed. These wetlands are the lands which are located at the south end of Newman Lake, (almost wholly within Section 11), and are presently used to grow oats and forage crops.

Type 2<sup>2/</sup> wetlands located in Section 24 at the extreme southern end of the watershed contain 34 acres.

Woodland, most of which is farm forest, comprises 21,104 acres. About four-fifths of the area tributary to Newman Lake is forest land and about the same proportion holds for the total watershed. There is a dense forest cover everywhere except on some rocky ridges. Even here, there is a fairly dense brush cover.

The forest cover is composed of mixed forest types, predominantly conifers. Douglas-fir or western larch are the main species, associated with varying amounts of ponderosa pine, western white pine, lodgepole pine, white fir, western hemlock, or western red cedar. Stands are uneven-aged, with many in sawtimber transition. The area was extensively logged

<sup>1/</sup> gpm - gallons per minute

<sup>2/</sup> "Wetlands of the United States," Department of the Interior, Fish and Wildlife Service Circular 39, Government Printing Office, Washington, D.C. (1971)



during the turn of the century, and sporadic logging has taken place during the last 20 years. The relogged areas usually have a satisfactory understory. The patches of hardwood are composed mainly of cottonwood and western paper birch. These patches of hardwoods and brush provide wildlife cover and browse.

There are no known rare or endangered species located within the watershed. 1/

#### Plant and Animal Resources (Flora and Fauna)

Game fish in Newman Lake are brook and rainbow trout, and spiny-ray fishes, such as bass, perch and sunfish. Thompson Creek provides important spawning habitat for brook and rainbow trout. No data is available on the numbers of spiny-ray fishes. The outlet stream below the lake has no fishery value.

The Washington Department of Game has been planting between 65,000 and 100,000 yearling (legal size) rainbow trout in Newman Lake each spring since 1945. The lake is not stocked until flood danger has passed because of the chance of loss of fish. Due to present inadequate fish screening and lake water level fluctuations, the Game Department has not developed the full potential of this lake. Flooding conditions make installation of fish screens impractical in the absence of measures to reduce flooding.

White-tailed deer and black bear are the only big game animals common to the watershed. They number about 200, and 15, respectively. Deer hunters make good use of the area. About 2,200 ruffed grouse, 80 ring-necked pheasants, and 50 California quail make up the upland game bird population found in the area. 2/ Present hunting pressure on these species is light. During the spring and summer months, a variety of diving and dabbling ducks use the area for nesting, feeding, and resting. The migrating population, at its peak, includes 3,000 mallards, 2,000 pintail; 200 widgens, 50 geese; and 50 swans. Approximate resident populations are 100 coots and 50 mallards. Mink and muskrat are the principal fur-bearers within the area, and occasionally are trapped. There are about 100 muskrat and 20 mink within the watershed. 2/

There are approximately 142 species of birds other than ducks, geese, and swans that spend at least some of the year in the Newman Lake area (Appendix B). Seventy-one varieties are present only during the breeding season. Twenty-five varieties utilize the lake and surrounding areas during spring or fall migration periods. Fifteen species are primarily seen during late fall, winter, and early spring. Thirty-one species are permanent year around residents of the Newman Lake area. 3/ Data on numbers of birds are not available at this time.

1/ "Endangered Species of the United States," Department of the Interior, Bureau of Sport Fisheries and Wildlife, U.S. Fish and Wildlife Service, (1970)

2/ Washington State Department of Game, Bluebook for Region I, Spokane, Washington (1972)

3/ Haggin, M., President of the Spokane Chapter of the National Audubon Society, Correspondence (1973)



## Economic Resources

Newman Lake Watershed contains approximately 26,464 acres, of which 3,250 acres are croplands; 18,784 acres are farm woodlands; and 2,320 acres are forest lands in state ownership, mostly within Mount Spokane State Park. In addition, there are about 1,200 acres of water, 150 acres in farmsteads, 480 acres in lakeside homesites, and 280 acres used for roads and miscellaneous purposes.

The economy of the area is tied to that of the city of Spokane and is relatively stable. Year-round population of the area is approximately 400 persons, with 125 being in the labor force. The average annual employment rate for 1970 in the area was 6.6 percent.<sup>1/</sup> Income level for the area was about \$7,100, with most of this coming from employment in Spokane. Other sources of income are farming and recreation services during the summer months.

There are about 400 permanent residents in the Newman Lake Watershed and a summer population of approximately 1,800 persons. The entire area is considered rural, although the density of housing in the lake area would qualify it as urban by census standards. The shorelands for the most part have been developed into year-round and summer homes. Slightly more than one and one-half miles of shorelands remain to be developed, but are expected to be developed with or without the project during the next 25 years. Many of the residents work in the Spokane metropolitan area and live at the lake during the summer months or permanently.

The watershed is served by a paved country road which provides access to lake properties as well as to the farmed areas. School bus routes are maintained and roads are kept open during the winter months. Forest trails and logging roads furnish access to the timbered uplands. More access roads are needed to facilitate better management of the forested area.

There are 18 farms in the watershed which produce general agricultural products--hay, grain, row crops, and livestock for both beef and dairy products. These farmlands are valued from \$200 to \$300 an acre, or an average per unit of \$36,000.

Wood products are produced on the other 57 ownerships classified as farms. These are, in general, part-time operations where the main income of the owner is from a job in industry. These lands are valued from \$60 to more than \$100 an acre, depending on age and quality of the timber.

Of the 2,320 acres of state-owned land, 1,469 acres are devoted to park use and 851 acres are in commercial timber stands.

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<sup>1/</sup> "Labor Force and Employment in the Spokane Area (Spokane County) 1970," (Rev. 11/71) State of Washington, Employment Security Department, Research and Statistical Branch, Olympia, Washington

## Recreational Resources

At this time, at Newman Lake, there are in operation six privately-owned resorts which cater to the public, two semi-private church camps, and a camp for the blind. The State Department of Game maintains a public access area for water-based recreation. Commercial resorts provide boat rental services, launching facilities, and tackle shops, and cater to the needs of large numbers of recreational fishing, swimming, and water skiing enthusiasts who make use of the lake. Present use of Newman Lake for fishing amounts to 8,500 angler-days per season, and other water-based recreation is estimated to be at least equal to the fishery-based recreation. These recreational uses are expected to materially increase as population pressures become greater.

## Archeological and Historic Resources

There are no known archeological, historical, scientific, or unique areas that will be affected by the proposed work. A study was conducted and eight prehistoric campsites were found in the watershed. Also, five sawmill sites, of no historic significance, were found in the watershed. Construction along the south end of the lake will not destroy any historic or prehistoric sites. Seasonal fluctuation of the lake should not damage any of the historic or prehistoric sites along the present lake margin. 1/

The State Historic Preservation Officer also was contacted and there are no known sites in or eligible for the National Register of Historic Places. 2/ In the event that an area containing one or more sites is found during construction, the Chief of Archeological Research for the National Park Service Northwest Region will be notified immediately.

## Soil, Water, and Plant Management Status

Present uses and capabilities of watershed lands were interpreted from records of the Spokane County Conservation District.

There are about 75 farm ownerships and 600 lakeshore ownerships in the watershed at the present time. Forty-five conservation agreements covering 11,967 acres are currently in effect with the Spokane County Conservation District. Conservation Plans have been developed for 39 of these cooperators.

The watershed contains 14,637 acres of land adequately treated. This includes 1,838 acres with conservation cropping systems, 680 acres pasture and hayland management, 2,609 acres proper grazing use, 8,539 acres wildlife habitat management, 741 acres woodland improved harvesting and 230 acres woodland improvement.

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1/ From report by Washington Archaeological Research Center, for Newman Lake Watershed, September, 1974

2/ "National Register of Historic Places," Department of the Interior, National Park Service, Federal Register, Vol. 38, No. 39 Pt. 11; February 28, 1973



Woodlands, most of which are farm forests, comprise 21,104 acres, all in good to excellent hydrologic condition. Land treatment needs are measures for protection of the resource. Such measures are largely fire protection, woodland sanitation, and harvesting methods which will protect the woodlands from deterioration and maintain wildlife habitat.

Measures for protection and development of the 3,250 acres of cropland include seeding of improved grasses and legumes, hay and pasture seeding, conservation crop rotations, and other practices designed to reduce sediment movement and take advantage of the lessened flood hazard.

The going rate of installation is deemed sufficient to meet the needs of the watershed, and no funds will be required to accelerate the installation of land treatment measures.

### WATER AND RELATED RESOURCES PROBLEMS

#### Land and Water Management

Approximately two acres of agricultural land is damaged by overbank sediment deposition. This occurs on the extreme lower flood plain of Thompson Creek prior to its entering Newman Lake. The sediments consist of silts, sands, and gravels which reduce the annual productivity of the pasture land by 25 percent.

There are no swamping damages occurring in this watershed. Sediment deposition is filling the lower reaches of the Thompson Creek channel. This action reduces the carrying capacity of the channel and subsequently results in overbank deposition.

The average annual sediment yield entering Newman Lake is estimated at 0.1 acre foot per square mile per year. The sediment concentration of stream flows which enter the lake average about 250 Mg/l. <sup>1/</sup> These sediments have no measurable effect on water quality and only a minimum effect on lake and stream pollution. Average annual damages are estimated at \$600. Unevaluated damages may be much higher.

Erosion damage totaling approximately \$200 annually occurs to logging roads and fire suppression lanes in the northern end of the watershed.

#### Floodwater Damages

The major watershed problems are frequent flooding of agricultural lands below the lake, sporadic flooding of farmlands above the lake, and resultant floodwater damages to lakeshore properties. The flooding damage is due to a combination of excessive rain or rapid snowmelt and an inadequate outlet channel from the lake. This flooding causes direct damage to croplands and pasturelands, and to docks and beaches of property owners. Flooding of septic tanks and limitation of use or nonuse of roads are sources of indirect damages within the watershed.

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<sup>1/</sup> Mg/l Milligrams per liter

The present outlet structure, which was built shortly after the turn of the century, is in a dilapidated condition. It was built on peat soils which have sunk, causing cracks in the structure itself. This condition has allowed water from the lake to flow largely unchecked through, around, and under the structure.

Flood damages occur in two zones. One area around the lake, and one area below the lake. Inadequate channel capacity causes the floodwater to form a pond below the lake. The lake is separated from the ponded waters by a vegetated dike and outlet structure.

1. Flooding of lakeshore properties begins when the stage of Newman Lake reaches 2125.6 feet. This stage or a higher level occurs, on the average, nine out of every 10 years, and produces damages of \$200 or more. A rise in water elevation to 2126.6 feet or higher can be expected, on the average, once in 10 years, and will cause total damage estimated at \$23,000 or more. Flooding of agricultural land around the lake starts when the lake reaches a stage of 2126.1 feet. This stage occurs five out of 10 years, and damages 33 acres. A further rise in lake elevation of .50 foot damages 89 acres.

2. Flooding of agricultural land downstream from the lake begins when the water spills over the outlet channel banks. This stage occurs seven out of 10 years, and damages 210 acres. A rise of two feet occurs, on the average, once every 10 years, and damages 765 acres of agricultural land.

Approximately 1,030 acres of cropland in the watershed are subject to damage by the 1 percent chance of occurrence flood. While by farm the largest acreage subject to damage is agricultural land, there is damage to approximately 50 acres of lake beaches and bays. Damage to beaches, docks, and other property around the lake constitutes approximately one-half of the total dollar damage.

Damage to cropland results from periods of inundation which delay growth and reduce quality of the grass, and from delay in seeding crops. Damage to the fishery occurs when the threat of overflow prevents stocking of fish in the lake, or when flooding causes loss of fish due to overflow. Damage to property around the lake occurs when lakeshore properties are flooded or docks are torn loose from their mooring.

The Washington Department of Game considers the undeveloped Newman Lake fishery potential to be a very important resource of the state. Because excessively high water bypasses fish screens at the outlet of the lake, the department has been unable to develop the fishery potential fully. Flooding causes a loss of resident fish when the lake level is above the floodwater barrier at the lower, or southern, end of the lake, and fish escape to the flooded farmlands below.

Indirect damages due to flooding include cost of vector control due to increased mosquito breeding and nuisance, detouring around washed-out roads for east side lake residents, and delays in summer occupancy by property owners. Other indirect damages due to flooding include the added cost of testing for possible contamination of domestic water supplies, and inoperative condition of septic tanks.

Floodwater damages are also responsible for a slowdown in economic activity and other secondary effects in the watershed.

A typical flood occurred in Newman Lake Watershed in the spring of 1969. Rapid melting of winter snows, accompanied by moderate amounts of rain, damaged 854 acres of cropland from March 23 until May 12. Monetary damages from this flood were calculated to be: agricultural, \$21,486; lakeshore properties, \$23,000; plus fishery damage. A flood of at least this magnitude is estimated to have a chance of recurring about once in 10 years.



## ENVIRONMENTAL IMPACTS

### Conservation Land Treatment

1. Conservation cropping system will improve crop production. The erosion rate will be reduced from five to three tons per acre on cropland.
2. Irrigation water management will reduce amount of water applied to only what is needed for efficient production.
3. Pasture and hayland management will improve production and reduce the erosion rate on pasture and hayland from five to three tons per acre.
4. Drainage field ditches will improve production, reduce the value of 460 acres of Type I wetlands to waterfowl and other wildlife and improve the quality of runoff water by reducing overland flows.
5. Farm ponds will increase wetland available for wildlife use and fish habitat by about 12 surface acres. Erosion rates and sedimentation of the creek and lake will be reduced because of better control of overland water flow and settling of sediments in the farm ponds. Quality of runoff water will be improved due to settling in the ponds. Flood runoff peaks will be reduced and spread over a longer period of time due to the storage capabilities of the farm ponds.
6. Proper grazing use should increase rangeland production and erosion will be reduced because of increased ground cover. Wildlife will benefit from improved quality and quantity of vegetation and sedimentation will be lowered due to reduction in erosion. Quality of the runoff should improve.
7. Woodland improved harvesting will improve production due to more selective harvesting procedures. This will create a more diverse habitat for wildlife, and will also increase erosion and sedimentation due to soil disturbance during logging and road construction. Runoff water should carry increased amounts of sediment.
8. Woodland improvement should improve production due to improved management and could reduce wildlife value by eliminating habitat diversity.
9. Wildlife habitat management will improve habitat quality and quantity due to more intensive management.

### Structural Measures

The greatest impact of the project on the human environment will be the reduction in floodwater damages to agricultural and lakeshore properties.

Damages from a 10 percent chance of recurrence flood, such as the one in 1969, would be reduced from approximately \$44,500 to an insignificant amount with the project in place. A flood having a chance of occurring once in 100 years would temporarily inundate 330 acres at the south end of the lake. This temporary inundation would result in \$4,300 worth of damage or \$268 each year figured over a 100 year period. If proper management of the lake is attained in years when large amounts of runoff is expected, there will be insignificant damages from a storm with a chance of occurring once in 100 years. Crops may be planted in a timely manner in properly prepared seedbeds. Croplands may be managed and utilized properly and fences and other agricultural properties will not be destroyed or damaged by floodwaters. The docks will not be destroyed or damaged by floodwaters in the early spring or left as unusable and unsightly structures during low lake levels in the summer. The beaches will not be damaged by high flows and left as ugly mud flats with great amounts of debris. The value of floodwater damage reduction has been estimated to be about \$35,675 annually.

The reduction of floodwaters will lessen adverse effects of high waters on septic tanks and drainage fields and diminish the chance of direct contamination of the lake by raw sewage carried by floodwaters. Areas where mosquitoes and other insects breed will be reduced.

Raising the floodwater barrier and installing a new and larger outlet structure with fish screens will prevent trout from being washed away by floodwaters. As a result, fish may then be planted in the lake about two weeks earlier.

These structures will also permit the Washington State Department of Game to rehabilitate the lake and plant fingerlings instead of full-sized fish, when feasible, increasing the trout population approximately five-fold. The numbers of other fish, such as blue-gill and bass will be reduced as the lake is rehabilitated for increased trout production. Increased numbers of trout and earlier plantings will provide approximately 58,000 more man-days of fishing per year. This will require additional waste management facilities. The spiny-ray fishery is expected to decrease with the increase in the trout fishery.

Reduction of flooding on 765 acres of cropland will eliminate 460 acres of Type I wetland used by waterfowl during spring migrations. A change in land use on 375 acres from oats to pasture grasses will reduce feeding value for waterfowl. These changes may reduce habitat in the watershed for migrating populations of waterfowl by 80 percent nine of every 10 years under present conditions. These waterfowl will probably remain within the Spokane Basin since 7000 acres of Type I wetlands are found there. Project construction activities are expected to have a temporary effect on muskrat in the construction area due to the disruption of habitat. Muskrat populations will be reduced from 100 to 50 after construction. Populations will increase back to 100 within three years.

Reduction of excessively high lake levels will decrease erosion of sand from beaches and lessen damages to docks and other facilities. The new



outlet structure will prevent uncontrolled loss of water during the summer months and thus increase recreational use of the lake by about two weeks in the fall. This will increase boating days by 630.

Reduction of flood stages will result in reducing the amount of sediment, residue from agricultural and other activity, and other potential pollutants, now carried into the lake and outlet channel by floodwaters. Debris now washed onto beaches and fields will also be decreased. Increased use of the lake by fishermen and other recreationists is not expected to materially change lake water quality or water supply.

A deeper lake will lessen the number of aquatic plants, such as the water lily and cattail, seen on the surface of Newman Lake each year. A stabilized lake level will encourage certain aquatic vegetation such as pond weeds, limited to a narrow band at the edge of the lake. There will be disturbances associated with construction operations. Approximately 23 acres of uneven-aged ponderosa pine will be removed from one side of the channel and from the sink area during construction. Two acres of land will be consumed in widening and deepening the channel. About 7,000 feet of channel will be excavated from both sides. Gravel excavated from 5,155 feet of the channel will be stored along the channel bank until it is used for road fill. Construction areas will heal as seeded and natural revegetation takes place.

#### Economic and Social

The construction phase of the project is expected to provide five man-years of local employment for each of two years. Once the project is installed, operation and maintenance will require about one-half man-year of employment every year for the life of the project. It is expected that this employment will be local in nature. The increased recreation and fishing seasons will mean approximately 48 more man-weeks of employment for service enterprises associated with recreation. A reduction in flooding of cropland will allow the farmers affected to improve the economic efficiency of their units, thereby assisting their continuance in farming. Secondary economic impacts from additional farming supplies needed and from additional income will be largely felt in Spokane. Economic impacts from additional fishermen and other recreationists will be split between the watershed and Spokane.

The primary beneficiaries of the project will be seven farmers and the 1,800 full- and part-time residents around the lake. Other beneficiaries will include the fishermen and other recreationists from outside the watershed. Total average annual costs of the project, including operation and maintenance costs, are \$43,315. Total annual benefits are \$114,425, giving a benefit-cost ratio of 2.6:1.

The project will decrease the incidence of flooding of roads and bridges, thus improving transportation routes in and out of the watershed. Crops and lakeshore property will be protected, improving the economic well-being of the watershed and surrounding area, as well as reducing the worry and anxiety connected with the loss of personal possessions. Management of the lake at a high elevation will reduce the area of beach available to some property owners during late summer months.

### FAVORABLE ENVIRONMENTAL EFFECTS

1. Improved transportation routes in and out of the watershed during periods of excessive runoff.
2. Reduction in floodwater damages to agricultural and lakeshore property.
3. Reduction of septic tank effluent on the ground surface, and decreased possibility of lake contamination by floodwaters.
4. Reduction of breeding areas for mosquitoes and other insects.
5. Reduction in fertilizer residue in the outlet channel and sink area.
6. Substantial improvement to the Newman Lake trout fishery by prevention of fish being washed downstream and from rehabilitation of the lake.
7. Reduction of damages to beaches, docks, and other recreational facilities.
8. Fishing will be improved in the lake due to more fish and earlier planting.
9. Recreational use of the lake for water sports will be extended by about two weeks in the fall due to increased water levels.
10. Scenic values of the area will be enhanced by the reduction of the amount of debris on fields and lakeshore property.
11. Five man-years of local employment for each of two years will be added by construction of the project. Operation and maintenance for the project will require one-half man-years of local employment each year for the life of the project.
12. Increased recreational activity will add approximately 48 man-weeks of employment for people associated with recreation services.

### ADVERSE ENVIRONMENTAL EFFECTS

1. Reduction in beach available to property owners on the south side of the lake.
2. Pondweed and lilies in the lake may increase as a result of lake stabilization.
3. The numbers of spiny-ray fish, such as blue-gill and bass, will be reduced as other fishery increases, causing a corresponding decrease in spiny-ray fisherman days.
4. Reduction of 460 acres of Type I wetlands used by waterfowl during spring migrations. Reduction of waterfowl feeding areas on 375 acres. The above conditions will reduce the number of migratory waterfowl in the watershed.
5. Two years of adverse effect on muskrats during project construction due to habitat disturbance.
6. Removal of 23 acres of uneven-aged ponderosa pine from the construction area, and excavation of 7,000 feet of channel on both sides, causing disturbance to wildlife habitat.
7. Gravel will be stockpiled along the edge of the channel until it is used for roadfill; this will involve some adverse esthetic effects.
8. Two and one-half acres of land will be permanently committed to structural measures.
9. Increase in trout fishermen and other increased recreational use of lake will require improved waste management facilities.
10. There will be some noise and air pollution associated with the project construction activities.



## ALTERNATIVES

One alternative is the substitution of a pumping plant for the lower 11,000 feet of channel and the channel water level control structure. All other structural measures would remain the same. Cost of the pumping plant and 8,000 feet of channel would be \$462,000. Operation, maintenance, and replacement costs of the pump plant and 8,000 feet of channel would be about \$4,350 annually.

Construction of the pumping plant instead of the total channel and water level control structure would save 13 acres of uneven-aged ponderosa pine. Temporary construction scars on 11,000 feet of channel would be eliminated. All other environmental impacts would be approximately the same as the proposed project, except for the energy used by the pumping plant.

Another alternative would be to acquire the cropland subject to flooding with funds from other than Public Law 566 origin, thus eliminating many of the existing damages and permitting additional floodwater storage. This would require buying approximately 870 acres at a cost of \$300 an acre, or \$261,000. Seven farm units would have to be relocated in some other area. Relocation costs are expected to be approximately \$10,000 per unit for a total of \$70,000. Three miles of paved county road would also have to be relocated to provide access to the east side of the lake. The cost of relocating this road would be approximately \$150,000. Some channel work would also be required to provide the lakeshore properties with protection from all but the largest storm in 100 years. Costs for this work would run approximately \$160,000. Structures shown in the plan that would not be needed under this alternative are the lake outlet structure, and part of the channel work. Total cost for the alternative would be \$726,910. Impacts would also be associated with road and farm relocation.

This alternative would provide substantially the same level of flood protection to lakeshore properties, and fishery improvement, as the plan selected. Disturbance of the channel area due to construction would be cut in half. Approximately 15 acres of uneven-aged ponderosa pine would be saved. It would reduce upland game bird habitat. Approximately 375 acres of waterfowl feed derived from farm crops would be lost unless special management is undertaken. Mosquito breeding areas would be increased. Approximately \$45,000 in agricultural benefits would be lost yearly and seven farm units would be completely destroyed within the watershed.

A third alternative is that of no planned action. The acceptance of this alternative would cause continuation of \$74,115 of average annual damages. These damages would gradually increase as conditions grew worse. Recreational demands would have to be met elsewhere or left unsatisfied. Flood damage to agricultural land and lakeshore property would still occur. Traffic would still be disrupted and health threatened. Lake fisheries would not be improved. The lakeshore would continue to develop resulting in increased

damages when flooding occurred. There would be a preservation of 460 acres of Type I wetlands as overbank flow would continue to occupy these lands during periods of high runoff.

The ongoing land treatment program would continue, resulting in reduced erosion and sedimentation and an increase in production.

## SHORT-TERM VS. LONG-TERM USE OF RESOURCES

Benefits to fish and wildlife and recreation brought about by the project should accrue to present and future generations alike. These benefits will be both local and regional in nature, because people from outside the watershed make use of the area. Benefits from flood prevention will be more of a local nature, although small impacts from increased spending of higher incomes will be felt in Spokane.

The project is designed to handle flooding problems and facilitate management of the fishery resource for a period of 100 years. With proper operation, maintenance, and replacement of facilities, the project should last the full 100 years and longer.

Future land use is expected to include continued expansion of residential build-up around the lake, with the peat lands remaining in cropland. The project is designed to protect all lakeshore properties.

Newman Lake Watershed lies in the Spokane subregion (1703) of the Columbia-Pacific Region (17) designated by the Water Resource Council.<sup>1/</sup> The 1970 Washington Soil and Water Conservation Needs Inventory lists 12 feasible P.L. 566 projects in that subregion, and the 1967 Idaho Soil and Water Conservation Needs Inventory lists two feasible P.L. 566 watersheds in the Idaho portion of the Spokane subregion. Of these 14 watersheds none are built, none are under construction, and Newman Lake is the only one that is being considered for construction at this time.

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<sup>1/</sup> "Water Resources Regions and Subregions for the National Assessment of Water and Related Land Resources," Water Resources Council, Washington, D.C. (1970)

### IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There are approximately four acres in the present outlet channel. Two more acres will be used in widening and deepening the existing channel. Approximately 50 percent of this two acres is pastureland, and the rest is grassland not used for grazing by domestic livestock. About one-half acre will be used for the lake outlet structure and fish screens. This land is presently about half in pasture and half in trees. Unless the channel is refilled and the structures are removed, which is impractical under present conditions, these areas are not available for other uses.

Labor and fuel will be committed to the construction of the project along with cement, steel, and other building materials.



### CONSULTATION AND REVIEW WITH APPROPRIATE AGENCIES AND OTHERS

The application for assistance for this project was approved by the Washington State Department of Water Resources (now Department of Ecology) representing the Governor, in October 1967. The first meeting of potential sponsors and all interested agencies and persons was held in February 1968.

Planning authority was granted April 1969. Since that time, meetings among sponsors, federal, state, and local agencies, and other interested persons for review and comment on the developing plan were held July 1969, February 1970, April 1970, June 1970, September 1970, and August 1972. Widely advertised public meetings were held in the Tri-Community Grange Hall in Moab in September 1970 and March 1973. In addition, numerous articles about the project have appeared in all of the local newspapers.

Reports from the U.S. Forest Service, the State Department of Natural Resources, and the Bureau of Sports Fisheries and Wildlife have been incorporated into both the work plan and the environmental impact statement.

The Washington State Game Commission, through the State Department of Game, is a sponsor of the project and has participated in the formulation of the work plan. Both the National Park Service and Washington State University are aware of the project, and WSU has sent a team to examine the area for places or articles of historical significance.

Comments on the Draft Environmental Impact Statement were requested from the following agencies and private organizations:

U.S. Department of the Army  
U.S. Department of Commerce  
Environmental Protection Agency  
Federal Power Commission  
U.S. Department of Health, Education and Welfare  
U.S. Department of the Interior  
Office of Equal Opportunity, USDA  
U.S. Department of Transportation  
Advisory Council on Historic Preservation  
Washington State Department of Ecology  
Washington State Department of Natural Resources  
Office of Program Planning and Fiscal Management (State Clearinghouse)  
Audubon Society  
Otis Orchards Irrigation District  
Newman Lake Homeowners Association  
Spokane County Regional Planning Conference (Metropolitan Clearinghouse)  
Washington Sportsmen Council

Comments were received from the following:

U.S. Department of the Army  
Environmental Protection Agency  
U.S. Department of the Interior  
U.S. Department of Transportation  
Advisory Council on Historic Preservation  
Washington State Department of Ecology  
Washington State Department of Game

#### Summary of Comments and Responses

Each issue, problem or objection is summarized and a response given on the following pages. Comments are serially numbered where multiple comments were supplied. The original letters of comment appear at the end of the statement in Appendix D.

#### U.S. Department of the Army

The Department of the Army has reviewed the environmental impact statement and has no comment.

#### Environmental Protection Agency

Comment: We foresee no environmental impacts other than those discussed in the draft statement.

Our comments of the draft statement have been classified L0-1, L0 (Lack of Objections) 1 (Adequate Information).

Response: None

U.S. Department of the Interior

1. Comment: Planned Project:

Throughout both documents, reference is repeatedly made to the design floods of 10 percent and 1 percent chance of occurrence, but the expected peak discharges of these floods are not described. The lack of these data make it difficult to evaluate the correctness of some of the described impacts.

Response: Concur. Under structural measures it is noted that the 10 percent flow is 102 cfs and the 1 percent flow is 175 cfs. These flows are as a result of lake routing.

2. Comment: Environmental Setting:

Potential environmental problems related to geologic conditions appear to have been given adequate consideration in the draft environmental statement.

Response: None

3. Comment: Environmental Setting:

The gravel removed from the channel will be stockpiled along the channel for use as road fill material. There are sand and gravel pits near the sink area in secs. 23 and 24, T. 26 N., R. 45 E. Apparently production from these pits has been sporadic and total production is not known. The environmental statement makes no mention of these or other mineral resources.

Response: Concur. Discussion of these items has been added to the Physiography section.

4. Comment: Environmental Setting:

On page 9 of the environmental statement, reference to the Clark Fork-Kootenai-Spokane subregion (subregion 1) of the Columbia North Pacific Region should be changed. The Clark Fork-Kootenai-Spokane subregion has been reclassified into three distinct subregions by the Water Resources Council. The Newman Lake watershed is in the newly-classified Spokane subregion (subregion 1703) of the Columbia-North Pacific Region.

Response: Concur. The change has been made in the physical resources section.

5. Comment: Environmental Setting:

There are three peat deposits covering more than 1,000 acres in the general area. One, of 730 acres, lies in secs. 10, 11, 12, 13, and 14, T. 26 N., R. 45 E. The second area consists of 332 acres along the northern shore of the lake in secs. 27, 28, 33, and 34, T. 27 N., R. 45 E. The third borders the northwest arm of Newman Lake in secs. 4 and 5, T. 26 N., R. 45 E., and in sec. 33, T. 27 N., R. 45 E., and contains about 150 acres.



Response: Concur. This data added to Physiography section.

6. Comment: Environmental Setting:

Regarding Recreational Resources on page 16, we have no comments to make on the primary impacts of the project on recreational use of Newman Lake. Recreational use of the channel itself, however, is not dealt with in either the work plan or the environmental impact statement.

Response: The channel passes through private grounds on which only construction and maintenance easements are obtained. There are no public recreation uses anticipated for the channel.

7. Comment: Environmental Setting:

Recreational use of the proposed channel might be discouraged by the relatively steep slopes. A slope ratio of 1:4, as opposed to 1:1-1/2, would facilitate recreational use of the 3.8 miles of channel. We suggest that if an environmentally feasible alternative exists that could provide for recreational use of the channel, it be explored in the final environmental statement.

Response: To make the channel sideslopes 4 horizontal to 1 vertical would require the removal of the vegetation from both sides, thus having a greater adverse impact on wildlife of the area. The flatter slopes would also permanently destroy more land. Also see above response to Comment No. 6.

8. Comment: Environmental Setting:

To determine if any sites eligible for the National Register of Historic Places will be affected, we suggest that a copy of the statement be sent to the Washington State Historic Preservation Officer for his comments.

Response: Concur. Copy of statement was sent to the State Historic Preservation Officer. No response was received before the final statement was prepared. A study was made by the Washington Archeology Research Center, and their findings are included in the final statement.

9. Comment: Environmental Setting:

The coverage of archeology on page 16 of the draft environmental statement is inadequate. Archeological resources should receive the same consideration as other aspects of the environment: i.e., they should be inventoried, their significance evaluated, impacts upon them assessed, and mitigative measures discussed.

Archeological surveys and salvage investigations within SCS watershed projects are sometimes sponsored by the National Park Service. The Soil Conservation Service may wish to advise the Regional Archeologist, Pacific Northwest Region, Fourth and Pike Building, Seattle, Washington 98101, of their plans for installation of the project in order that such investigations may be scheduled.

Response: Concur. A contract with the Washington Archeological Research Center was let and their findings have been added to the statement.

10. Comment: Adverse Environmental Effects:

In the draft statement, on page 25, an additional adverse impact is the possibility of accelerated lake eutrophication. If more land is made available for homesites because of reduced flood probabilities, these new homes will probably increase the nutrient inflow load to the lake from septic tank drainfields and thus quicken eutrophic processes. The land use discussion on page 6 predicts such increased development. The fact that water residence time in the lake during the summer will probably be prolonged only aggravates this problem as the inflowing nutrients will remain in the lake during those periods when water weeds grow most rapidly and algal blooms often occur.

Response: It is not anticipated to make more land available for home sites but the possibility of increased building activities is present. It is believed that the protection given to existing septic tank systems as well as county health ordinances in the building of new systems, will more than offset the contributions of the new systems. The Newman Lake home owners association are presently studying ways of financing a community sewage system for the lake area.

11. Comment: Adverse Environmental Effects:

We note that temporary noise and air pollution impacts are only lightly mentioned in item 10, page 25. The section on environmental impacts should describe the potential for noise and air pollution during construction, including steps planned to minimize the impacts. There should also be a discussion of construction related water pollution such as sediment control, sewage handling at the construction sites, and potential for spill prevention and control. We realize that the longer term water pollution problem is covered in paragraph 5, page 20, and paragraph 2, page 21, and in several other locations.

Response: All construction will be carried out under the Occupational Safety and Health Act as well as all applicable local and state permits and codes. These set limits on equipment and sanitary conditions on the construction sites. Permits from State Game Department will be required for work on the channel area, as well as permits from the State Department of Ecology to work on the structure on the lake and associated wetlands.

12. Comment: Adverse Environmental Effects:

The above comments serve to exemplify a general comment we have concerning the three sections from page 20 through 25. The environmental impacts section should state and discuss the full range of impacts, adverse and favorable. Then the extremely adverse or unavoidable impacts should be highlighted for further discussion under resource commitments and mitigation activities.

We suggest that page 25 might be reexamined for only those truly unavoidable impacts requiring mitigation or identification as irreversible resource commitments.

Response: Guidelines placed in the Federal Register, June 3, 1974, by the Service, are used to prepare statements. The format states that the environmental effects which are probably adverse and cannot be avoided should be summarized from the environmental impact section.

U.S. Department of Transportation

The Department of Transportation has reviewed the environmental impact statement and has no comment or objection to the project.

Advisory Council on Historic Preservation

Comment: To insure a comprehensive review of historical, cultural, archeological, and architectural resources, the Advisory Council suggests that the environmental statement contain evidence of contact with the appropriate State Historic Preservation Officer and that a copy of his comments concerning the effects of the undertaking upon these resources be included in the environmental statement.

Response: A copy of the statement was sent to the State Historic Preservation Officer. No response was received before the final statement was prepared. A study was made by the Washington Archeology Research Center, and their findings are included in the final statement.

State of Washington Department of Ecology

1. Comment: The water rights involved (vested and appropriated on the lake and outlet channel) should be benefited through extending the period of existing water availability. The proposed project will have no effect upon the elements of claims and relinquishment per 90.14 RCW.

Response: None



2. Comment: While the sponsoring Flood Control Zone District has legal authority to perform all proposed works of improvements and for reasons of anticipated benefits, the legal process of establishing or regulating levels and outflows per 90.24 RCW should also be carried out so as to eliminate any legal cloud over the construction, operation, and maintenance of this project.

Response: The Flood Control Zone District will not establish a fixed lake level. The outlet structure will be designed to provide flexibility in lake level control.

3. Comment: Apparently, the Federal Flood Insurance Program has been given at least implied consideration. The community to be protected by this project is already developed and on the ground. Becoming eligible, securing insurance, and complying with the Insurance Act of 1973 will not prevent recurring damage. Floodproofing each home, property and structure far exceeds the cost of this project, which will floodproof all property and remove the flood hazard.

Response: None

4. Comment: The Department of Ecology should be included as part of the inspection team during and after construction, and should be consulted regarding water rights and setting of lake levels.

Response: Concur. A statement was added to the Operation and Maintenance Section.

5. Comment: The Department of Ecology, and its predecessor agencies, the Departments of Water Resources and Conservation, through the years, have been closely associated and involved with these people and their flood problems. We were responsible for their establishment of a Flood Control Zone District thereby qualifying the area for Public Law 566 assistance. This project merits our continued support. This plan well provides the solution and objectives originally sought -- it is a good plan and superior to any alternative.

Project plans and specifications should be reviewed for approval by DOE under 90.03.350 (Dam Safety).

Response: Concur. A statement has been added to the planned project section regarding compliance with all local, state and federal laws.

#### Washington State Department of Game

The statement was reviewed by our Spokane Region staff and they concluded that information in your draft is acceptable.

LIST OF APPENDIXES

Appendix A - Comparison of Benefits and Costs for Structural Measures

Appendix B - Breeding Birds of the Newman Lake Area

Appendix C - Newman Lake Project Map

Appendix D - Letters of Comment Received on the Draft Environmental  
Statement

Approved by *Salmon A. Bridges* Date *Jan 9, 1975*  
State Conservationist  
Soil Conservation Service

# APPENDIX A - COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES <sup>1/</sup>

Newman Lake Watershed, Washington

(Dollars)

| Evaluation Unit   | AVERAGE ANNUAL BENEFITS <sup>2/</sup> |                              |                                    |                      |                      |                |                   | Average Annual Cost | Benefit-Cost Ratio |
|---|---------------------------------------|------------------------------|------------------------------------|----------------------|----------------------|----------------|-------------------|---------------------|--------------------|
|   | Damage Reduction:<br>3/               | More Intensive:<br>Land Use: | Inciden-<br>Recreation<br>Wildlife | Fish and<br>Wildlife | Fish and<br>Wildlife | Second-<br>ary | Total<br>Benefits |                     |                    |
| Channel Work;<br>Channel Water Level<br>Control Structure;<br>Floodwater Barrier;<br>Sink Preparation &<br>Lake Outlet Struc-<br>ture with Fish<br>Screens & Base | 35,675                                | 18,395                       | 6,515                              | 22,400               | 22,400               | 9,040          | 114,425           | 38,835              | 2.9:1              |
| Project<br>Administration   |                                       |                              |                                    |                      |                      |                |                   | 4,480               |                    |
| GRAND TOTAL   | 35,675                                | 18,395                       | 6,515                              | 22,400               | 22,400               | 9,040          | 114,425           | 43,315              | 2.6:1              |

<sup>1/</sup> Table 6 from work plan

<sup>2/</sup> Price base: 1973. All crop damage figures adjusted to normalized prices.

<sup>3/</sup> In addition, it is estimated that land treatment measures will provide flood damage reduction benefits of \$600 annually.

Date September 1974





Most of These Birds Are Present Only During the Breeding Seasons. Permanent Year Round Residents Are Starred (\*)

Breeding Birds of the Newman Lake Area -

All of the following birds nest at or within three miles of the Lake, or use the Lake as a feeding area.<sup>1/</sup>

- |                               |                              |
|-------------------------------|------------------------------|
| 1. Red-necked Grebe           | *49. Stellar's Jay           |
| 2. Pied-billed Grebe          | *50. Black-billed Magpie     |
| 3. Great Blue Heron           | *51. Common Raven            |
| 4. American Bittern           | 52. Common Crow              |
| 5. Mallard                    | *53. Black-capped Chickadee  |
| *6. Sharp-shinned Hawk        | *54. Mountain Chickadee      |
| *7. Cooper's Hawk             | *55. White-breasted Nuthatch |
| *8. Red-tailed Hawk           | *56. Red-breasted Nuthatch   |
| 9. Sparrow Hawk               | *57. Pygmy Nuthatch          |
| 10. Marsh Hawk                | *58. Brown Creeper           |
| *11. Ruffed Grouse            | 59. House Wren               |
| *12. California Quail         | 60. Long-billed Marsh Wren   |
| *13. Ring-necked Pheasant     | 61. Catbird                  |
| 14. Virginia Rail             | 62. Robin                    |
| 15. Sora                      | 63. Varied Thrush            |
| 16. American Coot             | 64. Swainson's Thrush        |
| 17. Killdeer                  | 65. Veery                    |
| 18. Common Snipe              | 66. Mountain Bluebird        |
| 19. Spotted Sandpiper         | *67. Townsend's Solitaire    |
| 20. Mourning Dove             | 68. Ruby-crowned Kinglet     |
| *21. Screech Owl              | 69. Cedar Waxwing            |
| *22. Great Horned Owl         | *70. Starling                |
| *23. Pygmy Owl                | 71. Solitary Vireo           |
| *24. Saw-whet Owl             | 72. Red-eyed Vireo           |
| 25. Common Nighthawk          | 73. Warbling Vireo           |
| 26. Black-chinned Hummingbird | 74. Orange-crowned Warbler   |
| 27. Rufous Hummingbird        | 75. Nashville Warbler        |
| 28. Calliope Hummingbird      | 76. Yellow Warbler           |
| *29. Belted Kingfisher        | 77. Audubon's Warbler        |
| *30. Red-shafted Flicker      | 78. Townsend's Warbler       |
| *31. Pileated Woodpecker      | 79. McGillivray's Warbler    |
| 32. Yellow-bellied Sapsucker  | 80. Yellowthroat             |
| *33. Hairy Woodpecker         | 81. Yellow-breasted Chat     |
| *34. Downy Woodpecker         | 82. American Redstart        |
| 35. Eastern Kingbird          | *83. House Sparrow           |
| 36. Western Kingbird          | 84. Western Meadowlark       |
| 37. Traill's Flycatcher       | 85. Yellow-headed Blackbird  |
| 38. Dusky Flycatcher          | 86. Red-winged Blackbird     |
| 39. Western Flycatcher        | 87. Bullock's Oriole         |

<sup>1/</sup> Haggin, M., President of the Spokane Chapter of the National Audubon Society, Correspondence (1973)

- |                            |                           |
|----------------------------|---------------------------|
| 40. Western Wood Pewee     | 88. Brewer's Blackbird    |
| 41. Olive-sided Flycatcher | 89. Brown-headed Cowbird  |
| 42. Horned Lark            | 90. Western Tanager       |
| 43. Violet-green Swallow   | 91. Black-headed Grosbeak |
| 44. Tree Swallow           | 92. Lazuli Bunting        |
| 45. Rough-winged Swallow   | *93. Evening Grosbeak     |
| 46. Barn Swallow           | 94. Cassin's Finch        |
| 47. Cliff Swallow          | *95. House Finch          |
| *48. Gray Jay              | *96. Pine Siskin          |
|                            | 97. American Goldfinch    |
|                            | *98. Red Crossbill        |
|                            | 99. Rufous-sided Towhee   |
|                            | 100. Savannah Sparrow     |
|                            | 101. Grasshopper Sparrow  |
|                            | 102. Vesper Sparrow       |
|                            | 103. Lark Sparrow         |
|                            | *104. Oregon Junco        |
|                            | 105. Chipping Sparrow     |
|                            | 106. Fox Sparrow          |
|                            | *107. Song Sparrow        |



Migrants - Birds that utilize the lake and surrounding areas primarily during Spring (March-May) or fall (Sept.-Nov.) migration periods.<sup>1/</sup>

1. Common Loon
2. Horned Grebe
- \*3. Eared Grebe
4. Western Grebe
5. Whistling Swan
6. Canada Goose
- \*7. Gadwall
- \*8. Pintail
- \*9. Green-winged Teal
- \*10. Blue-winged Teal
- \*11. Cinnamon Teal
- \*12. American Widgeon
- \*13. Shoveler
- \*14. Wood Duck
- \*15. Redhead
16. Ring-necked Duck
17. Canvasback
18. Lesser Scaup
19. Common Goldeneye
20. Barrow's Goldeneye
21. Bufflehead
- \*22. Ruddy Duck
- \*23. Hooded Merganser
24. American Merganser
25. Turkey Vulture
26. Solitary Sandpiper
27. Greater Yellowlegs
28. Lesser Yellowlegs
29. Least Sandpiper
30. Long-billed Dowitcher
31. Western Sandpiper
- \*32. Wilson's Phalarope
33. Northern Phalarope
34. Herring Gull
35. California Gull
36. Ring-billed Gull
- \*37. Black Tern
- \*38. Vaux's Swift
- \*39. Bank Swallow
- \*40. Hermit Thrush
- \*41. Western Bluebird
42. Water Pipit
43. Wilson's Warbler
44. White-crowned Sparrow
45. Lincoln's Sparrow

SOME OF THESE PROBABLY  
NEST OCCASIONALLY.  
POSSIBLE NESTERS ARE  
STARRED (\*)

---

<sup>1/</sup> Haggin, M., President of the Spokane Chapter of the National Audubon Society, Correspondence (1973)

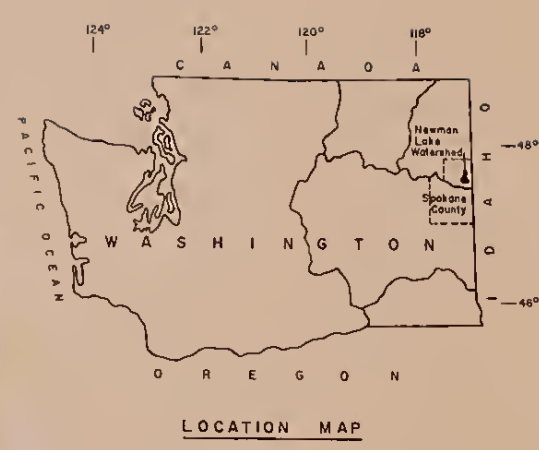
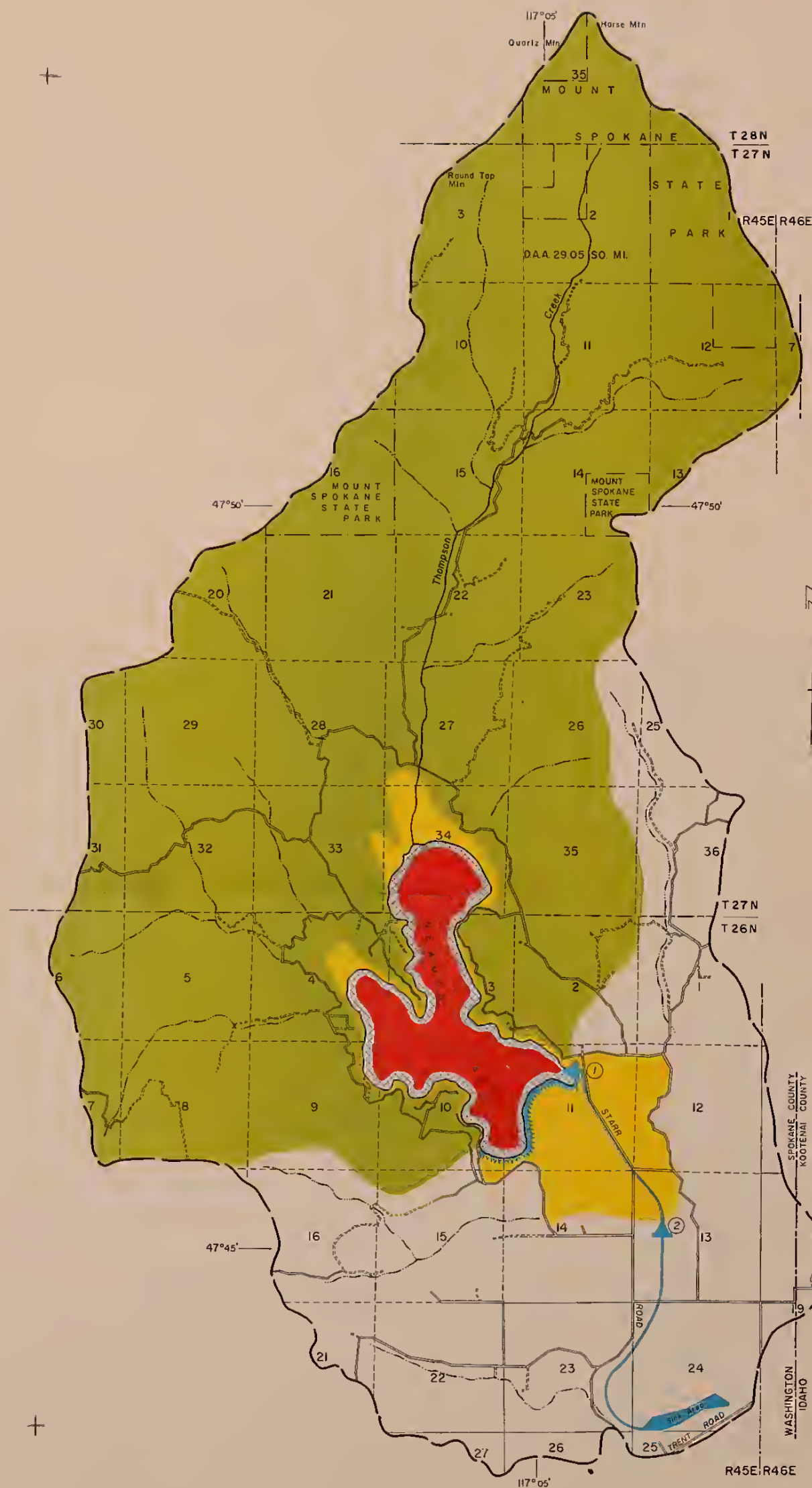
Winter Visitors - Primarily seen during late fall,  
winter and early spring.  
(Oct. 15 - March 15)

- \*1. Goshawk
- 2. Golden Eagle
- \*3. Pigeon Hawk
- 4. Snowy Owl
- \*5. Short-eared Owl
- \*6. Clark's Nutcracker
- \*7. Chestnut-backed Chickadee
- \*8. Winter Wren
- \*9. Golden-crowned Kinglet
- 10. Northern Shrike
- 11. Pine Grosbeak
- 12. Bohemian Waxwing
- 13. Common Redpoll
- 14. Slate-colored Junco
- 15. Snow Bunting

THESE BIRDS EITHER BREED NORTH OF THE U.S.  
OR AT HIGHER ELEVATIONS. SOME MAY OCCASIONALLY  
BREED NEAR LAKE. THESE POSSIBLE BREEDERS ARE  
STARRED (\*).1/

---

1/ Haggin, M., President of the Spokane Chapter of the National Audubon Society, Correspondence (1973)



- LEGEND**
- COUNTY LINE
  - U.S. TOWNSHIP LINE
  - SECTION LINE & NUMBER
  - STATE PARK
  - IMPROVED ROAD
  - FARM ROAD
  - PERENNIAL STREAM
  - INTERMITTENT STREAM
  - PERENNIAL LAKE OR POND
  - WATERSHED BOUNDARY
  - ORAINAGE AREA CONTROLLED BY STRUCTURE
  - AREA BENEFITED
  - MULTIPLE PURPOSE STRUCTURE
  - STRUCTURE NUMBER
  - ORAINAGE AREA ACREAGE O.A.A. 29.05 SQ. MI.
  - CHANNEL IMPROVEMENT FOR FLOOD PREVENTION
  - FLOOD WATER BARRIER

**PROJECT MAP**  
**NEWMAN LAKE WATERSHED**  
 SPOKANE COUNTY, WASHINGTON  
 AUGUST 1972  
 SCALE IN MILES





Appendix D

Letters of Comment Received  
on the Draft Environmental  
Impact Statement







DEPARTMENT OF THE ARMY  
SEATTLE DISTRICT, CORPS OF ENGINEERS  
1519 ALASKAN WAY SOUTH  
SEATTLE, WASHINGTON 98134

NPSN-PL-ER

Kenneth E. Grant, Administrator  
U.S. Department of Agriculture  
Soil Conservation Service  
Washington, D.C. 20250

Dear Mr. Grant:

We have reviewed the draft Environmental Impact Statement for the Newman Lake Watershed, Washington. We have no comment.

Thank you for the opportunity to review the environmental statement.

Sincerely yours,

A handwritten signature in cursive script, reading "Frederick W. Mueller, Jr.", is positioned above the typed name.

FREDERICK W. MUELLER, JR.  
Lt. Colonel, Corps of Engineers  
Deputy District Engineer

JUL 8 1974



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101



REPLY TO  
ATTN OF:

10MEI - M/S 325

August 1, 1974

Mr. Kenneth E. Grant, Administrator  
United States Department of Agriculture  
Soil Conservation Service  
Washington, D. C. 20250

Dear Mr. Grant:

We have reviewed the draft environmental impact statement for the  
Newman Lake Watershed, Spokane County, Washington.

We foresee no environmental impacts other than those discussed in  
the draft statement.

Our comments on this draft statement have been classified LO-1,  
LO (Lack of Objections) 1 (Adequate Information). The classification  
and the date of EPA's comments will be published in the Federal Register  
in accordance with our responsibility to inform the public of our review  
on proposed Federal actions under Section 309 of the Clean Air Act.

Thank you for the opportunity to comment on this draft statement.

Sincerely,

Hurlon C. Ray  
Assistant Regional Administrator  
for Management







# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240

In Reply Refer to:  
PEP ER-74/716

Dear Mr. Grant:

Thank you for your letter of May 24, 1974, requesting our views and comments on the draft environmental statement and work plan for the Newman Lake Watershed, Spokane County, Washington. We have comments both on the work plan and environmental statement.

## Work Plan

On page 3 of the work plan and on page 9 of the environmental statement, reference to the Clark Fork-Kootenai-Spokane sub-region (subregion 1) of the Columbia North Pacific Region should be changed. The Clark Fork-Kootenai-Spokane sub-region has been reclassified into three distinct subregions by the Water Resources Council. The Newman Lake watershed is in the newly-classified Spokane subregion (subregion 1703) of the Columbia-North Pacific Region.

In the draft watershed work plan, page 7, second paragraph, the first sentence is not accurate. The discharge in Thompson Creek, 0.6 mile upstream from the lake, was measured as 1.66 cfs on September 21, 1972, and 0.50 cfs on July 26, 1973.

## Environmental Statement

Comments on the statement are made below under the appropriate subheadings in the document.

## Planned Project:

Throughout both documents, reference is repeatedly made to the design floods of 10 percent and 1 percent chance of occurrence, but the expected peak discharges of these floods are not described. The lack of these data make it difficult to evaluate the correctness of some of the described impacts.



*Save Energy and You Serve America!*





Environmental Setting:

Potential environmental problems related to geologic conditions appear to have been given adequate consideration in the draft environmental statement.

The gravel removed from the channel will be stockpiled along the channel for use as road fill material. There are sand and gravel pits near the sink area in secs. 23 and 24, T. 26 N., R. 45 E. Apparently production from these pits has been sporadic and total production is not known. The environmental statement makes no mention of these or other mineral resources.

There are three peat deposits covering more than 1,000 acres in the general area. One, of 730 acres, lies in secs. 10, 11, 12, 13, and 14, T 26 N., R. 45 E. The second area consists of 332 acres along the northern shore of the lake in secs. 27, 28, 33, and 34, T. 27 N., R. 45 E. The third borders the northwest arm of Newman Lake in secs. 4 and 5, T. 26 N., R. 45 E., and in sec. 33, T. 27 N., R. 45 E., and contains about 150 acres.

Regarding Recreational Resources on page 16, we have no comments to make on the primary impacts of the project on recreational use of Newman Lake. Recreational use of the channel itself, however, is not dealt with in either the work plan or the environmental impact statement.

Recreational use of the proposed channel might be discouraged by the relatively steep slopes. A slope ratio of 1:4, as opposed to 1:1-1/2, would facilitate recreational use of the 3.8 miles of channel. We suggest that if an environmentally feasible alternative exists that could provide for recreational use of the channel, it be explored in the final environmental statement.

To determine if any sites eligible for the National Register of Historic Places will be affected, we suggest that a copy of the statement be sent to the Washington State Historic Preservation Officer for his comments.

The coverage of archeology on page 16 of the draft environmental statement is inadequate. Archeological resources should receive the same consideration as other aspects of the environment: i.e., they should be inventoried, their significance evaluated, impacts upon them assessed, and mitigative measures discussed.



Archeological surveys and salvage investigations within SCS watershed projects are sometimes sponsored by the National Park Service. The Soil Conservation Service may wish to advise the Regional Archeologist, Pacific Northwest Region, Fourth and Pike Building, Seattle, Washington 98101, of their plans for installation of the project in order that such investigations may be scheduled.

Adverse Environmental Effects:

In the draft statement, on page 25, an additional adverse impact is the possibility of accelerated lake eutrophication. If more land is made available for homesites because of reduced flood probabilities, these new homes will probably increase the nutrient inflow load to the lake from septic tank drainfields and thus quicken eutrophic processes. The land use discussion on page 6 predicts such increased development. The fact that water residence time in the lake during the summer will probably be prolonged only aggravates this problem as the inflowing nutrients will remain in the lake during those periods when water weeds grow most rapidly and algal blooms often occur.

We note that temporary noise and air pollution impacts are only lightly mentioned in item 10, page 25. The section on environmental impacts should describe the potential for noise and air pollution during construction, including steps planned to minimize the impacts. There should also be a discussion of construction related water pollution such as sediment control, sewage handling at the construction sites, and potential for spill prevention and control. We realize that the longer term water pollution problem is covered in paragraph 5, page 20, and paragraph 2, page 21, and in several other locations.

The above comments serve to exemplify a general comment we have concerning the three sections from page 20 through 25. The environmental impacts section should state and discuss the full range of impacts, adverse and favorable. Then the extremely adverse or unavoidable impacts should be highlighted for further discussion under resource commitments and mitigation activities.

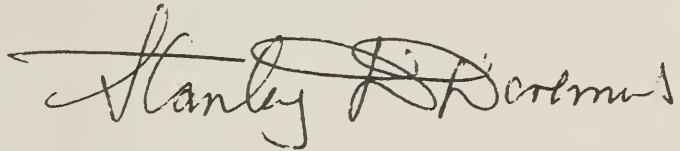




We suggest that page 25 might be reexamined for only those truly unavoidable impacts requiring mitigation or identification as irreversible resource commitments.

We hope these comments will be of help when preparing your final environmental impact statement.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Stanley R. Coleman". The signature is fluid and cursive, with a long horizontal stroke at the beginning and a trailing flourish at the end.

**Deputy Assistant** Secretary of the Interior

Mr. Kenneth E. Grant  
Administrator  
Soil Conservation Service  
Department of Agriculture  
Washington, D. C. 20250





DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

Mr. Kenneth E. Grant  
Administrator  
Soil Conservation Service  
Department of Agriculture  
Washington, D. C. 20250

Dear Mr. Grant:

This letter is in response to your letter of 24 May 1974 addressed to Admiral Bender concerning a draft environmental impact statement for the Newman Lake Watershed Project, Spokane County, Washington.

The Department of Transportation has reviewed the material submitted. We have no comments to offer nor do we have any objection to the project.

The opportunity to review this draft statement is appreciated.

Sincerely,

Respectfully,  
Chief, Environmental  
and Safety





Advisory Council  
On Historic Preservation

1300 K Street, N.W. Suite 450  
Washington, D.C. 20005

July 10, 1974

Mr. Kenneth E. Grant  
Administrator  
Soil Conservation Service  
U.S. Department of Agriculture  
Washington, D.C. 20250

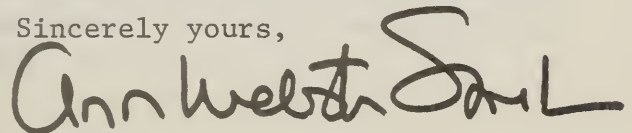
Dear Mr. Grant:

This is in response to your request of May 24, 1974 for comments on the environmental statement for Newman Lake Watershed, Spokane County, Washington. Pursuant to its ~~responsibilities~~ under Section 102 (2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that your draft environmental statement appears procedurally adequate. However, we have the following substantive comments to make:

To insure a comprehensive review of historical, cultural, archeological, and architectural resources, the Advisory Council suggests that the environmental statement contain evidence of contact with the appropriate State Historic Preservation Officer and that a copy of his comments concerning the effects of the undertaking upon these resources be included in the environmental statement. The State Historic Preservation Officer for Washington is Mr. Charles H. Odegard, Director, Washington State Parks and Recreation Commission, Post Office Box 1128, Olympia, Washington 98504.

Should you have any questions or require any additional assistance, please contact Jordan Tannenbaum of the Advisory Council staff.

Sincerely yours,



Ann Webster Smith  
Director, Office of Compliance



July 23, 1974

United States Department of Agriculture  
Soil Conservation Service  
Washington, D.C. 20250

State of  
Washington  
Department of  
Ecology



Attention: Kenneth E. Grant, Administrator

Subject: Newman Lake Watershed Project,  
~~Spokane County~~, Washington

Dear Sir:

Thank you for the opportunity to review the subject draft environmental impact statement.

The following comments are a product of a joint review effort involving both this office and our regional office in Spokane.

1. The water rights involved (vested and appropriated on the Lake and outlet channel) should be benefited through extending the period of existing water availability. The proposed project will have no effect upon the elements of claims and relinquishment per 90.14 RCW.
2. While the sponsoring Flood Control Zone District has legal authority to perform all proposed works of improvements and for reasons of anticipated benefits, the legal process of establishing or regulating levels and outflows per 90.24 RCW should also be carried out so as to eliminate any legal cloud over the construction, operation, and maintenance of this project.
3. Apparently, the Federal Flood Insurance Program has been given at least implied consideration. The community to be protected by this project is already developed and on the ground. Becoming eligible, securing insurance, and complying with the Insurance Act of 1973 will not prevent recurring damage. Flood proofing each home, property and structure far exceeds the cost of this project, which will flood proof all property and remove the flood hazard.
4. The Department of Ecology should be included as part of the inspection team during and after construction, and should be consulted regarding water rights and setting of lake levels.





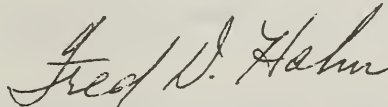
United States Department of Agriculture  
July 23, 1974  
Page Two

The Department of Ecology, and its predecessor agencies, the Departments of Water Resources and Conservation, through the years, have been closely associated and involved with these people and their flood problems. We were responsible for their establishment of a Flood Control Zone District thereby qualifying the area for Public Law 566 assistance. This project merits our continued support. This plan well provides the solution and objectives originally sought -- it is a good plan and superior to any alternative.

Project plans and specifications should be reviewed for approval by DOE under 90.03.350 (Dam Safety).

Should you desire further comment, please contact Mr. T. L. Elwell, Department of Ecology, phone (206) 753-6892.

Sincerely,

A handwritten signature in cursive script, reading "Fred D. Hahn".

Fred D. Hahn, Assistant Director  
Planning and Program Development

FDH:sm





Director / Carl N. Crouse

Assistant Directors / Ralph W. Larson  
Ronald N. Andrews

*Game Commission*

Arthur S. Coffin, Yakima, Chairman  
James R. Agen,Tacoma  
Elmer G. Gerken, Quincy  
Claude Bekins, Seattle  
Glenn Galbraith, Wellpinit  
Frank L. Cassidy, Jr., Vancouver

## DEPARTMENT OF GAME

600 North Capitol Way Olympia, Washington 98504

July 15, 1974

Soil Conservation Service  
Room 360 U. S. Courthouse  
Spokane, Washington 99201

Gentlemen:

Your draft environmental impact statement was reviewed by our  
Spokane Region staff.

They have concluded that information in your draft is acceptable;  
our regional biologists participated in your project planning.

Thank you for the opportunity to comment.

Sincerely,

THE DEPARTMENT OF GAME

Eugene S. Dziedzic, Asst. Chief  
Environmental Management Division

ESD:jb  
cc: Kirkendall



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